

ORIGINAL ARTICLE

ADOPTION OF RESPONSIBLE CARE PROGRAM IN MALAYSIAN CHEMICAL INDUSTRIES: CURRENT STATUS AND WAY FORWARD

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ABSTRACT

Chemical industry is one of the important industries in the world. However, incidents happened due to the release of hazardous materials, toxic and poisonous chemicals in the chemical industries can cause fatal to human and destruction of the environment. Learning from the Bhopal disaster's experience, chemical industries have developed a program - Responsible Care, aiming to regain public trust through improving the environment, health and safety performances. Malaysia has adopted Responsible Care program since 1994 under the stewardship of the Chemical Industries Council of Malaysia (CICM). Six codes of management practices have been developed by the CICM, covering distribution, community awareness and emergency response, pollution prevention, process safety, employee health & safety and product stewardship. It has been more than 20 years since its inception. However, to date, there are only 125 companies have signed the pledge to adopt Responsible Care program. The CICM has also conducted several initiatives to encourage participation of chemical companies to adopt Responsible Care program in Malaysia. Therefore, it is the aim of this paper to review the current status of Responsible Care program in Malaysia and also deliberate the way forward of this program.

Keywords: Responsible Care, chemical industries, environment, health, safety

INTRODUCTION

Malaysia is a developing country whereby its economic development begun with the commercial sector and it relied on mining sector as well as agricultural products. Nowadays, the manufacturing sector has become the second largest contributor to Malaysia's economy. According to May¹, the manufacturing sector has contributed to 34% of the GDP, 27% of the total employment and 83% of the total export earnings to Malaysian economy in 1998. Other reports on manufacturing sector in 2010 shows 24.6% of contribution to the GDP². Another report by The Department of Statistic Malaysia³ states that there are about 998 companies manufacturing chemicals and chemical products and they can be classified into 8 sectors which are oleochemicals, industrial gas, petrochemicals, pesticides, fertilizers, paint, coating resins and biodiesel⁴. Chemical industries play important roles as they have strong linkages with other manufacturing sectors⁵. In 2015, there were 535 chemical and chemical-related companies registered with the Federation of Malaysian Manufacturers (FMM), consisting large scale companies and also SMEs^{6,7}.

The rapid development of chemical industries in Malaysia has triggered the need to strengthen the management of chemicals in order to prevent incidents involving chemicals that can threaten the safety and health of human and the environment because some chemicals and toxic waste are harmful to human and the environment^{8,9}. Under these circumstances, the Chemical Industry Council of Malaysia (CICM) has launched Responsible Care Program (RCP) in 1994, with the aim to improve the chemical industries' performance in all aspects, including environmental, health and safety by implementing six codes of management practices throughout all stages of product manufacturing until disposal^{10,11}. RCP is a global initiative adopted by many countries, which was established by the Canadian Chemical Producer Associations (CCPA) in December 1984 to improve the chemical industry's poor public image, encourage responsible manners and also restore public faith in the industry's integrity^{12,13}. Since its launching in Malaysia, CICM has developed and published Responsible Care 10 Guiding Principles and six codes of management practices, which commit the CEOs of signatory companies to conduct their businesses and operations according to these Guiding Principles and codes of management practices⁴. The six

RCP codes of management practices are used to encourage responsibilities and continuous improvement in performances. However, these codes are not mandating the signatory companies the way that they should run their company. All these six codes of management practices were launched gradually since 1995 until 1999 by the CICM. And in 2000, they have developed the self-assessment which was based on the codes of management practices, containing the indicators of performance which were designed to address operational plant safety, discharges and releases to the environment and the extent of links between the sites and the communities¹⁴. The CICM has planned various activities and programs to sustain the RCP adoption and implementation. The CICM has organized safety seminars, workshops, conferences, meetings and consultations in order to emphasize the core objective of RCP while encouraging awareness and active participation among the signatory companies⁴. The CICM also values the RCP signatory companies which have excellent performance in implementing the codes of management practices through giving Responsible Care Awards every year since 2002. They also plan to launch the independent third party verification system which is used to assure the RCP credibility.

A study conducted by Grolleau¹⁵ on the characteristics of the chemical firms registering for ISO 14001 or RCP in France found that those companies with high environmental risk are more likely to register for RCP. Besides that, they also found that small firms are more feasible to register RCP. However, in Malaysia, there are only 125 signatory companies presently have signed the pledge to implement RCP which most of the members are multinationals and large scale companies, less than 10 percent are small and medium local enterprises (SMEs). The participation of chemical companies in RCP is still low as compared to the total 535 chemical companies recorded by FMM⁷. The low participation of SMEs in RCP is because of lack of awareness in practicing best EHS procedure⁴. Grolleau¹⁵ also revealed that most of the firms are likely to register for ISO 14001 rather than RCP because RCP is lack of credibility. Other scholar argued that without explicit penalty and sanction, industry self-regulation such as RCP will fail¹⁶. Although RCP is publicly described as the chemical industry serious effort in social responsibility, it

receives critics on its credibility and effectiveness of the program implementation whereby the public and environmental scientist are skeptical about the self-evaluation on assessing the performance of RCP¹⁷. Other study conducted by Delmas and Montiel¹⁸ in the diffusion of voluntary international management standards, RCP, ISO 9001, and ISO 14001 in the chemical industry, found that the firm with the previous adoption of RCP is most likely to adopt ISO 14001 as a second voluntary program. Besides that, they argued that these international standards should not be analyzed in isolation but concurrently with other management systems because these management systems were not competing each other but they were complementing one another.

In order to seal the loophole of RCP credibility, significant changes of RCP has been made in 2002 by the American Chemical Council (ACC)¹⁹, being the implementation of Responsible Care Management Systems (RCMS) that meets either the RCMS or RC14001 that build on a basic "Plan-Do-Check-Act" philosophy which increases industry's performance while allowing companies to achieve their specific needs^{19, 20}. This RC14001 which combines RCP and ISO14001 into a single and cost effective process. However, ISO14001 only focuses on reducing their environmental impacts while the RCP is packed with environmental, safety and health aspects, community dialogues, and also the product development as what they have in the six codes of management practices. The RC14001 is still not enough to equip RCP into a higher level of standard as it does not fully cover the RCP codes such as product stewardship, distribution, process safety, community awareness and emergency response, as well as employee health and safety. The RCP has been implemented for about two decades in Malaysia since it was introduced in 1994. The performance of the RCP implementation has yet to be determined. Therefore, the objective of this paper is to review the current status of RCP adoption in Malaysian chemical industry based on the category of RCP signatory companies as well as their RCP compliance in respective codes of management practices. This paper also deliberates the way forward of RCP adoption and implementation in Malaysia in order to strengthen the RCP credibility towards sustainability.

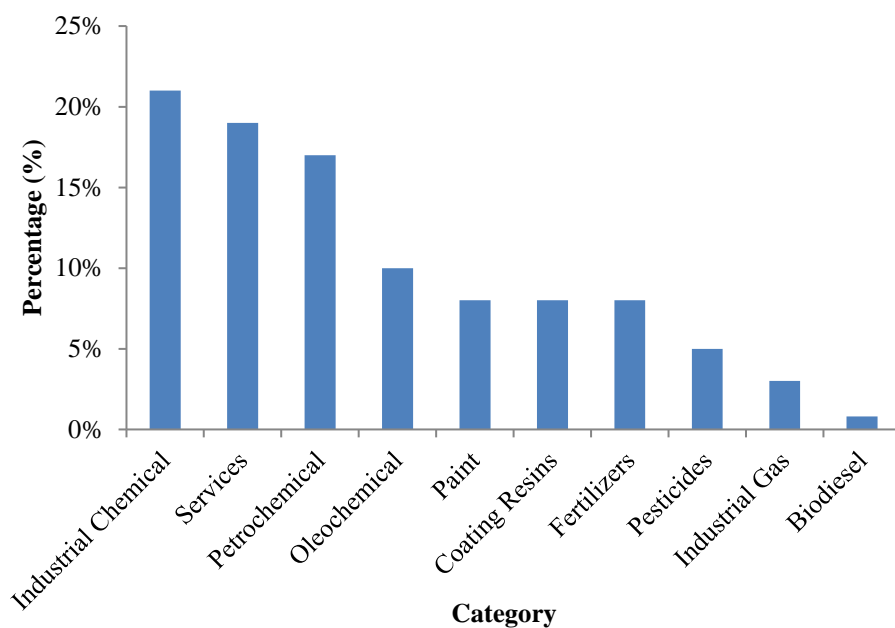


Figure 1. Categories of Responsible Care Program Signatory Companies

METHODS

This study focused on 125 chemical companies which have signed to be the RCP signatory companies. In order to attain this objective, the chemical companies' self-evaluation data (2009 - 2013) was obtained from the CICM. First, the companies were categorized into ten different categories in order to determine the status of RCP adoption by the chemical companies. The ten categories are petrochemicals, biodiesel, oleochemical, paint, coating resin, fertilizer, pesticides, industrial gasses, services, and industrial chemical. Second, the compliance rate of six codes of management practices (2009 - 2013) was gathered and the trend was analyzed to determine the status of implementation of RCP and as an input for the deliberate of way forward of RCP.

RESULTS AND DISCUSSION

Current status of Responsible Care Program

After 22 years of launching, a lot of activities for RCP have been conducted in order to improve chemical industries' performance towards sustainable development. From the total number of RCP signatories, the companies are categorized into ten groups as shown in Figure 1. The industrial chemical has the highest number of signatories (21%) compared to other categories. The industrial chemical category includes those companies that are manufacturing polymers, catalysts, nitrogen compounds,

adhesives and sealants, synthetic rubbers, inorganic chemicals and other industrial chemicals. The services category is the second highest (19%) in the total number of signatories. The services category includes transportation, consultation, and training which are related to the chemical industry. Whereas, the biodiesel category has the least signatories (1%) in adopting RCP.

As reported in the previous section, the three highest number of RCP signatory companies are from industrial chemical, service, and petrochemical categories, whereby these three categories are mainly consist of giant companies which have been operating for many decades in Malaysia. For example, petrochemical industries have started their operations in Malaysia since the early 90s and have now become one of the major exporters of petrochemical products. Besides that, this industry has attracted investors and major industry players as well as Malaysia's strategic partners within ASEAN and its close proximity to the Far East major markets²¹. Compared to the biodiesel category, where the participation of biodiesel producing companies is still low because the total number of the biodiesel producers in Malaysia is only 22 companies²². Furthermore, biodiesel industry in Malaysia is still new compared to other chemical subsectors. The world first ever integrated palm biodiesel plant was founded in 2006 and it was the kick start for the biodiesel development in Malaysia²³.

As the objective of RCP is to continuously improve the environment, safety and health, the six codes of management practices are used as the performance indicators to assess the output of the program. The implementation of RCP is assisted by the self-evaluation assessment which is compulsory for each signatory company to perform reporting annually whereby the self-evaluation assessment is also used for the Responsible Care Awards to which companies who have excellent performance in RCP implementation. As shown in Figure 2, the compliance rate of the RCP shows fluctuation

trends for all the six codes. The pollution prevention and distribution codes have outstanding trends which both of the codes improved continuously from 2009 until 2013, whilst the employee health and safety (EHS) and the community awareness and emergency response (CAER) codes need more concerns by the signatory companies. The compliance rate of pollution prevention code is high probably because the MNCs and big local companies tend to have better technology which can help to reduce pollution as most of the signatory companies comprise of MNCs and big companies.

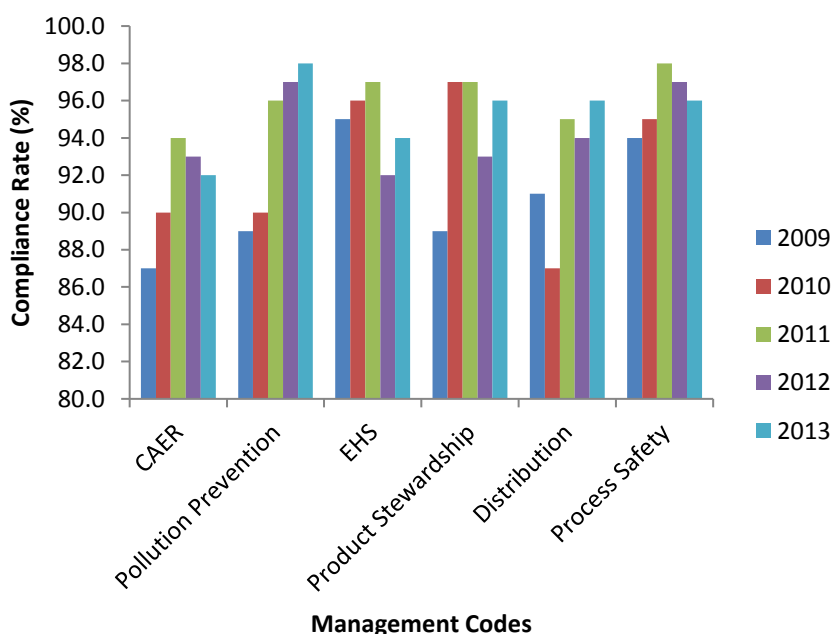


Figure 2. Compliance Rate (%) for Responsible Care Program Codes of Management Practices.

Way Forward of Responsible Care Program

The RCP is one of the voluntary approaches which has similar objective with ISO 14001 whereby both programs share the same idea in implementing environmental management system although they have different compliance mechanisms. For example, RCP uses trade association as their compliance mechanisms compared to ISO 14001 which uses third-party certification that has greater benefits in reinforcing the credibility of certifications with regulatory agencies, customers, and community. In previous section, we have discussed the initiative of RCP was done by some chemical associations in order to sustain the credibility of adopting RCP in the chemical industries. Some have developed new approaches of RCP implementation by integrating RCP into ISO 14001 to form RC-14001²⁰. The initiative that integrates RCP into environmental management system is to ensure both management systems will work together to achieve management goals, not only to save cost

and time, but eliminate overlapping and minimize duplication²⁴.

However, some of the RCP codes are overlapping with voluntary standards other than ISO14001. For example, the objective of product stewardship code in RCP match with that of ISO 9001 because it requires the company to produce a quality product with safety design for community and the environment. Other codes namely employee health and safety share similar objective with OHSAS 18001 which helps an organization to control occupational health and safety risk. Since these RCP codes management practice share some similar objectives with other management systems, the RCP should be fine tuned to fit into the ISO 14001, ISO 9001 and OHSAS 18001 management systems, allowing these management systems to be implemented effectively. The way forward of RCP could be the formulation of QEHS-RC whereby it integrates RCP into ISO 9001, ISO 14001 and OHSAS 18001 managements systems and work as an integrated chemical management system which could help those companies that already have implemented

QEHS management systems to behave more responsible through the adoption and implementation of RCP.

CONCLUSION

As the number of chemical companies in Malaysia growing over the years, the risk from the chemical industries is also increasing. Therefore, there is a need to strengthen the chemical industries management into a more responsible manner. The chemical industries should not only prioritize the economic growth of their firm, but they also need to emphasize the environment, health and safety responsibilities as well as socio-economic issues. The RCP was established to continuously improve the environment, health and safety performances, contributing to the betterment of society while minimizing any adverse environmental impacts and it can also be described as a serious effort for social responsibility. The guiding principles and the codes of management practices build RCP up as a sustainable chemical management system, ensuring the chemical industries are in line with sustainable development agenda. In order to ensure the success of the RCP adoption and implementation in Malaysia, all the signatory companies should strive to continuously improve their performance in implementing the codes of management practices in their firm. The RCP not only focuses on the performance of the chemical industries, but it also encourages the industry to practice responsible ethics in terms of driving performance improvement while becoming more open and transparent in the way it deals with stakeholders.

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